



Project Exploration creates transformative learning opportunities for youth underrepresented in the sciences –particularly students of color and girls – by equipping them with the skills, practices, and mindset needed for a lifelong pursuit of learning. STEM@Home makes activities around science, technology, engineering, and math accessible and fun to do at home. This STEMbook activity, resources, and more are available at www.projectexploration.org/stemathome.

In this activity, you will:

listen to a story about a young boy and a robot who helped send aliens back to their home planet. You will have the opportunity to practice the engineering design process by making a soda straw that can be launched.



Supplies Required:

- 1 pencil
- 1 pair of scissors
- 1 roll of tape
- 1 soda straw
- 1 meter stick or meter measuring tape
- 1 rocket template sheet

Video

Listen to Kids vs. Planets before beginning the activity: <https://tinyurl.com/yx2ugzqy>

Build a soda straw rocket: <https://tinyurl.com/tsnj9ku>

Overview

A typical rocket produces more than a million pounds of thrust that allows it to carry more than 6,000 pounds, at speeds topping 22,000 miles per hour! Today, rockets are the vehicles that allow humans to explore outer space, and may someday take us far as Mars. The objective of this activity is to imagine being an engineer who created a rocket that is now being used to send aliens back to their home planet. Exploring the solar system and thinking about what life could be like on another planet is the adventure!



Instructions

1. Go to <https://tinyurl.com/yd6dw7az> for the rocket template
2. Cut out the large rectangle on the rocket template. This will be the body of the rocket.
3. Wrap the rocket body around a pencil length-wise and tape it closed to form a tube.
4. Carefully cut out the 2 fin units.
5. Align the rectangle in the middle of the fin with the end of the rocket body.
6. Tape it to the rocket body.
7. Nothing should stick out past the bottom of the rocket body.
8. Go back to <https://tinyurl.com/yd6dw7az>
9. Follow all instructions and test your new design!
10. Record what happens and any modifications you make.

Additional Resources

Think About It!

Can you name all of the planets from the story? Which planet would you like to visit? How far did your rocket go? What modifications can you make so it can launch higher? What are some things engineers can build that help discover new things?

1. Learn more about the solar system with this video: <https://tinyurl.com/osqekfq>
2. Meet an astronaut: <https://www.nasa.gov/astronauts>
3. Facts about space: <https://tinyurl.com/ty36tce>

Share It Out

Share on social media: now that you've read along, designed and tested your rocket, think about ways you can improve your next rocket! Share with friends and family!

Share the information and your design with others using the hashtags:

#SpaceStrawReadAlong
#ProjectExploration
#StemAtHome
#StemLiteracy

Share via PE's website: Students who complete STEM@home activities and share what they learned with the PE team via our website will earn points which can be traded in for cash prizes at the Explore Store. Your project number is 103. Learn more at www.projectexploration.org/explore-store

Join PE's character contest!

Design a STEM character who will lead kids through activities and be featured on our website and in our STEMbooks. Cash prizes will be awarded to the top 3 finalists. Learn more at www.projectexploration.org/character-contest.



Need help? Call us: 312-772-6634

www.projectexploration.org